

**ABSTRACT OF THE DISCLOSURE**

**A HARD DISK DRIVE WITH SELF-CONTAINED**

**5                    ACTIVE ACOUSTIC NOISE REDUCTION**

An active noise reduction system for reducing the acoustic noise generated by a hard disk drive or generated external of a hard disk drive. The active noise reduction system is integrated into the hard disk drive and produces an acoustic waveform that is

10    180 degrees out-of-phase with the acoustic noise being generated, for example, by the spindle motor and VCM. The acoustic noise is received directly through a microphone or indirectly through the read/write head, spindle motor driver, or VCM driver. The acoustic noise is processed by electronics and the noise canceling waveform is either

15    noise canceling waveform is then broadcasted through one or more transducers that are integrated in the hard disk drive.

2009-07-23 10:00